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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Neil Singer

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03/27/2006

CHOATE, HALL & STEWART LLP
TWO INTERNATIONAL PLACE
BOSTON, MA 02110

EXAMINER

WONG, KIN C

ART UNIT

PAPER NUMBER

2627

DATE MAILED: 03/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/779,912	Applicant(s) SINGER, NEIL	
	Examiner K. Wong	Art Unit 2651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-61 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-59 and 61 is/are rejected.
- 7) ☒ Claim(s) 60 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

This is a response to amendment filed on 5/9/05.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 53 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim recited "steps" in an apparatus that which is not clear the recitations are for an apparatus claim or for a method claim. Such language of using the phrase "step" is discussed in the last Office action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims (1-3, 5-8, 10-13, 30-32, 34-37 and 39-42) are rejected under 35 U.S.C. 102(b) as being anticipated by Black et al (4096579).

Black discloses a data storage (as depicted in figure 3 of Black et al) which uses a position-velocity table (velocity profile) and a computer executable instructions for the movement (trajectory) of a component (head) and shaping the velocity command signal (see col. 1, lines 33-46; col. 1, line 60 to col. 2, line 41; col. 24, lines 13-25; col. 31, lines 49-61 and col. 32, line 62 to col. 33, line 25 of Black et al).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims (4, 9, 14-29, 33, 38, 43-59 and 61) are rejected under 35 U.S.C. 103(a) as being unpatentable over Black et al (4096579) in view of Singhose et al (5638267).

Regarding claims 43-44 and 61: Black et al discloses a dynamic system (data storage) that uses the position-velocity table (velocity profile) for the dynamic trajectory of the component movement. Black et al is silent on the trajectory technique with reducing of the unwanted vibration in the system. Singhose et al is relied on for the teaching of the trajectory technique with reducing of the unwanted vibration (see abstract and col. 3, lines 35-40 of Singhose et al).

It would have obvious to one of ordinary skill in the art at the time of the invention was made to modify the trajectory technique of Black with a reduction of unwanted vibration as taught by Singhose. The rational is as follows: one of ordinary skill in the art would have been motivated to eliminate the exact desired frequency of the vibration as suggested in col. 38, lines 40-42 of Singhose et al.

Regarding claims 45-46: the combination of Black et al and Singhose et al shows in figure 9 of Singhose et al that the system sensitivity constraints (see associated descriptions for details).

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Regarding claims 47-48: the combination of Black et al and Singhose et al teaches that the reduction of unwanted vibration in only one or more constraints or one in system vibration/moving component vibration (see col. 2, lines 33-61 of Singhose et al).

Regarding claims 49-50: the combination of Black et al and Singhose et al shows in figures 76 and 78 of Singhose et al that the technique of shaping the input for reducing the vibration (see associated descriptions for details).

Regarding claim 51: the combination of Black et al and Singhose et al teaches that a filter with zeros and poles (see col. 57, lines 42-60 of Singhose et al).

Regarding claim 52: the combination of Black et al and Singhose et al teaches that at least one of the constraints relating to system thermal limits, system current limits, and system duty cycle (see col. 18, lines 50-58 and col. 57, lines 61 to col. 58, line 64 of Singhose et al).

Regarding claim 53: the combination of Black et al and Singhose et al shows in figures 76 and 78 of Singhose et al that the technique for determining the vibration level and applying the shaping input function (see associated descriptions for details).

Regarding claim 54: the combination of Black et al and Singhose et al teaches that the technique for Posicast input (see col. 6, line 64 to col. 7, line 8 of Singhose et al).

Regarding claims 55-56: the combination of Black et al and Singhose et al shows in figures 1a-1c and 72a-72c that the technique based on the symmetric of the input.

Regarding claim 57: the combinations of Black et al and Singhose et al teaches that the technique based on the voltage and current of the system (see col. 18, lines 11-41 of Singhose et al).

Regarding claims 9, 38 and 58: the combination of black et al and Singhose et al that the technique is in real-time (see col. 7, lines 52-65 of Singhose et al).

Regarding claim 59: claim 59 has limitations similar to those treated in above rejection(s), and is met by the references as discussed above. Claim 59 however also recites the following limitations of partial fraction expansion that is met in col. 18, lines 59-67 of Singhose et al.

Regarding claims 14-29: the method claims (14-29) are drawn to method of using the corresponding apparatus claimed in claims (43-58 and 61). Therefore method claims (14-29) correspond to apparatus claims (43-58 and 61) and are rejected for the same reason of obviousness as used above.

Regarding claims 4 and 33: the combination of Black et al and Singhose shows in figure 77 that an inverse shaping technique (see associated descriptions for details).

Allowable Subject Matter

Claim 60 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Liu (6178060), McConnell et al (6011373), Scaramuzzo, Jr. et al

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(5465035), Schmidt et al (6256163) and Singer et al (4916635) are cited for compensation for unwanted dynamics in a dynamics system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to K. Wong whose telephone number is (571) 272-7566.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, H. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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19 Mar 06


PRIMARY EXAMINER